

Overcoming the Fear of the Social - Moving With ANT Into Burrell and Morgan's Empty box

Jim Underwood

University of Technology, Sydney, Australia

Jim.Underwood@uts.edu.au

Abstract: It is now 30 years since the publication of Burrell and Morgan's Sociological Paradigms. In the 1990s it was almost obligatory for Information Systems researchers to justify their methodology by declaring their position on the Burrell and Morgan matrix. This fashion has thankfully subsided, but this leaves many starting IS researchers unclear as to their philosophical position. Some cling to the hope of finding simple cause-effect relations, some launch into 'ethnographic research' unprepared for questioning their own cultural assumptions, some attempt to avoid deciding by claiming 'multi-paradigm' research. Very few embrace the final 'radical humanist' quadrant, a position that can be seen as the holy grail of responsible research, a way of avoiding making a stand, or simply crazy. In this paper we interpret the Burrell and Morgan matrix as a stage in the ongoing struggle to conceptualise cultures, societies and organisations as suitable objects for research. Since at least Hume students of the social have looked jealously at mathematics and physics as the true paradigm of knowledge, sometimes attempting exact imitation, sometimes attempting to mark out an independent but equal territory. Most recently Latour has proposed that our problem is in believing that there is such a domain as 'the social', a domain in which we can theorise about human interaction in the abstract, without needing to immerse ourselves in messy particulars. While we sympathise with Latour's latest concerns, we feel that they are yet another emanation of 'science envy', the belief that somehow other domains such as the mathematical, the biological and the economic, have special connections with 'reality' which the social lacks. We believe that before we can 're-assemble the social' we need to overcome our fears of the demons of constructivism, relativism and solipsism, and accept the subjectivity of the particular. In this we are helped by the ideas of Marquard, Geertz, Merleau-Ponty, Foucault and Deleuze among others. Only then can we return to actor-network theory as a tool that we can use as we participate in the reconstruction of the mutual understanding that is the social fabric of particular organisations, a reconstruction that will lead we know not where.

Keywords: Paradigms, relativism, meaning

1. Information systems researchers in search of theory

We all hold theories, some times explicitly, about varying aspects of life. The most obviously useful theories are what Argyris (1978) calls theories of action - 'if I do this, then that will happen'. 'If I heat the liquid for a long time it will disappear'. 'If I tell a student he is stupid, he will study harder'. 'If we introduce a computer-based accounting system, we will increase our profits'. But these theories are not completely reliable. The liquid may remain liquid. The student may punch us on the nose. We may never realise the hoped for IT productivity gains. So we refine our theories. We multiply entities. Perhaps this liquid has a composition that has more earth than air; perhaps we are heating the liquid on a mountain top. Perhaps the student has an aggression inducing brain disorder; perhaps he is influenced by the revolutionary spirit of the times. Perhaps the accounting system uses unreliable computers; perhaps excessive imports of computers have caused the economy to collapse. Some of the new entities are internal to the 'objects' with which we are interacting, some appear to be features of the 'environment'; some are easily observed, some are deeply hidden. In the case of the computer-based information system it is even difficult to know whether to think of some of these 'factors' as internal or environmental. And are these new entities 'real', or are they just stories we are inventing to make ourselves feel better.

Philosophers have probably been worrying about these questions for at least the last ten thousand years but, for a number of reasons, information systems researchers became quite concerned with them in the 1980s (Mumford et al 1984). For researchers with a mathematical or programming background the question seemed to be to find faster and more reliable algorithms, but it was apparent industry preferred 'war stories' to formal theories or obscure analyses of variance (Keen 1990); as computing studies moved into universities and researchers struggled to establish an information systems discipline, a theory became necessary; and the more people researched information systems, the less obvious it became what exactly these entities were. Those who wished to pursue research that didn't fit the dominant styles of formal methods or survey research sought models in other disciplines, in particular sociology. Many new information systems researchers turned to Burrell and Morgan (1979) to clarify and justify their research approach. Most, however, were satisfied with classifying themselves as 'interpretivist' and concentrated mainly on what this meant for epistemology and method. Often their writings followed the format of traditional functionalist research, fixing rather

simple 'research questions' at the beginning of their project, then attempting to justify pre-conceived conclusions through case studies or interviews. In the majority of cases there was little concern with the nature of the phenomenon they were studying, with ontology. This tendency was encouraged by Crotty (1998) whose text became a standard reference on research process for beginning IS researchers. Crotty avoids discussing ontology, partly on the grounds that it is a personal choice (and perhaps not discussable in a global research community) and partly that, for a constructivist, epistemology seems much more relevant to research. Nevertheless, it seems essential that researchers should be clear about what they think they are studying, even at the risk of offending their audience. One extremely important contribution to the application of Burrell and Morgan's model to the information systems discipline was made by Hirschheim, Klein and Lyytinen (1995), who used the model to deconstruct systems development methodologies and data modelling techniques.

In this paper I wish to revisit the Burrell and Morgan model, and use a number of other authors to draw out some of the model's implications for information systems research and practice. I am not undertaking an exegesis, I am not attempting to explain what these authors had in mind when they produced their work. I can only say what the ideas they raise mean to me.

2. Revisiting Burrell and Morgan

It is interesting to return to authors whom I imagined I had understood. Burrell and Morgan identify four sociological paradigms, four 'fundamentally different perspectives for the analysis of social phenomena' (p 23). On this grid they place various schools of social thought as well as particular authors, mainly philosophers and organisational theorists. They do not directly address research methods - which may be why beginning researchers prefer Crotty.

Burrell and Morgan's first paradigm is labelled 'functionalist', and 'postulates that the social world external to individual cognition is a real world made up of hard, tangible and relatively immutable structures' (p 4). Since I had long ago abandoned Platonism I was forced to ask about the nature of these structures. Where were they? What were they made of? Burrell and Morgan do not help much here - they refer to 'mechanical and biological analogies' (p 27) and include Pareto, Durkheim and Parsons in their rogues' gallery of functionalists. In one sense 'analogy' doesn't tell us much about ontology; an interpretivist could easily use an analogy as a heuristic or a way of sense-making. The problem seems to be that these authors are all structuralists - in attempting to make sense of how individuals interact with larger systems of which they are a part (society?) they imagine or claim to have discovered (by induction?) general rules that govern these interactions (Lévi-Strauss 1966). This seems reasonable. People are unlikely to accept something of low value in exchange for something of high value; people who move to another society might feel uncertain about their place in it; a stable and peaceful society requires some level of agreement on acceptable behaviour. Most people accept this as common sense, as the way things are. But the question now shifts to how these rules are enacted, embodied and maintained. I will discuss this further towards the end of the paper.

Information systems research which came to be labelled as functionalist or positivist did not dwell too much on these issues. In the spirit of behaviourism we just looked at what people and organisations were doing (or said they were doing) and attempted to find correlations. Some results were unsurprising - e.g. projects are more likely to succeed if they have top management support - and didn't seem to raise any ontological questions. Researchers with a technology background were more interested in the process of developing systems and so, from a sociological point of view, concentrated on practices. Thus they studied development life cycles, organisational maturity and system evolution. Underlying this was a belief that, although the technology was changing rapidly, there was a predetermined (by whom?) organisational pathway which if followed would lead to success. This pathway always seemed to involve more rules, more measurement and more paperwork. As IT managers and their clients built an iron cage for themselves the researchers cheered from the sidelines. Michels (1911) would have been depressed.

An objection to realist ontologies is that they ignore individuals; they discuss roles or at best (in behaviourism) subjects. There is no place for feelings, intuition or decision making (except within bounded rationality - Simon 1976). So perhaps we should concentrate on subjectively experienced reality. This is the basis of the interpretivist paradigm. This paradigm includes a wide range of schools including ethnomethodology, ethnography, symbolic interactionism and grounded theory. Although these are often thought of as methodologies, they each have their own take on

epistemology; they each have their own particular views about what can be known and how we can know it. However, as with the other paradigms, views on ontology are often unstated or unclear. Some interpretivist researchers are constructionists (following Berger and Luckman 1966) and may believe that ontology and epistemology are equivalent - what exists is what we know, reality is created through knowing. Burrell and Morgan (p 28) seem to believe that the true location of the social is in the individual consciousness. This is consistent with the work of Freud and Jung, where society emanates from the unconscious, and with the objectivist approaches of the socio-biologists and neurobiologists. Paradoxically, from this view, it seems that only functionalists believe that society really exists. Other ontological bases of interpretivism have been physical artifacts (such as burial mounds), rules (such as kinship rules) or language. In all these cases it is easy to be tempted by objectivism, substituting the study of the physical or mental objects for the study of the social.

A key feature of interpretive approaches is the concept (or method?) of *verstehen* (Burrell and Morgan pp229-230). This is usually translated as 'understanding' and taken to mean the researcher placing themselves into the position of the subjects - imagining what it would be like to be the other, or having the same mental processes. (My computer says that 'understanding' has as synonyms 'sympathetic', 'considerate', 'thoughtful', 'kind', 'accepting', 'indulgent', 'perceptive', 'appreciative', 'supportive' and 'tolerant' - all these emphasise subjectivity and all apply to most interpretive research.) The difficulty is that the essence of society may be in the understanding of it shared by its members, and the researcher is claiming that their understanding is the same. How can they be trusted? Some researchers solve this problem by 'going native', but then they risk not being taken seriously by their erstwhile colleagues. Since 'understanding' is the basis of a culture, how is it possible to share understanding between cultures?

Interpretive information systems research has often concentrated on practice in the IT industry, in particular the design and use of the human-computer interface (e.g. Laurel 1991, Nardi and O'Day 2000, Suchman 1988). Checkland's (1999) widely discussed soft systems methodology, properly understood, can be seen as truly interpretive; a core of this methodology is the establishment of mutual understanding among all the stakeholders in organisational change projects. The longer term cultural exchanges between technologists and their clients is discussed by Campbell (2008) who, while using grounded theory, is very careful to attempt *verstehen*.

The radical structuralist paradigm is portrayed as the opposite of interpretivism. It doesn't just want to understand, it wants to act; and to the radical structuralist the social is objectively very real. The archetype of radical structuralism is Marxism, which objectifies society in both the economic substructure and the superstructure of domination, and whose aim, as Marx said, is 'not to understand the world, but to change it'. Burrell and Morgan recognise (p 10-16) that their dichotomy between the sociology of regulation and the sociology of change is more problematic in practice (though less theoretically absorbing) than the objectivism/subjectivism distinction. The managerialist 'reform' of the last few decades would probably not be regarded as radically structuralist, although radical changes of work organisation in socialist nations might be. The difference seems to rely on the objective existence of a higher level structure of social domination which is stabilised in the former case and undermined in the later. This does not seem totally convincing, but then I'm not an ontological realist. Sociologists and organisation theorists who are radical structuralists tend to concentrate on superstructure rather than substructure, partly because they are sociologists, but also because they believe that people will not unite to subvert the substructure until they overcome their false consciousness and realise the nature of their oppression.

In information systems research, radical structuralists have often concentrated on deconstructing systems development practices and the writings of other information systems researchers. Joan Greenbaum (1979) studied the morale and working conditions of programmers subjected to structured programming, the then fashionable reform in the IT industry (there have so far been no radical structuralist studies of the current fad, extreme programming). Information Engineering, an organisation-wide systems development methodology, was deconstructed Beath and Orlikowski (1994), to reveal its underlying socio-political assumptions. We could also regard Poster's 1990 work, in which he views various aspects of IT in society through the theories of selected post-modern authors, as an example of radical structuralism. Currently interest in radical structuralist information systems research seems to be reviving, particularly over questions of power in systems development and implementation (e.g. Wieand 2008; Byrne and Lee 2008). These authors are, implicitly at least, on the side of change since they seem to disapprove of the structures of dominance that they reveal.

The final paradigm is radical humanism, which takes a subjectivist orientation to change. As examples Burrell and Morgan offer existentialism and 'anarchistic individualism' (which sounds rather like Hobbes without the king), as well as work by Illich, Reich and Roszak on alternative realities (pp 313-315). Their main emphasis, however, is on critical theory. Critical theory in its many varieties has been widely used and debated in the last half-century. I am not a critical theorist and do not wish to enter the debate, but I am puzzled by its categorisation as radical humanism. Burrell and Morgan themselves classify different critical theorists as either objective or subjective, and describe the progression of several theorists as they moved from nominalism to realism through their working lives. For researchers working under soviet regimes this transformation was sometimes a matter of survival, but for those living in capitalist systems it revealed their frustration with populations who didn't recognise their own repression. If, as subjectivists, we believe that each person or society makes their own truth, it is difficult to find a base from which to tell others that they are mistaken. It is quite feasible that individuals or societies could create beliefs that outsiders, and even many of a society's own members, find offensive or ridiculous, but if there is no objective truth, then it is difficult to justify attempting to change those beliefs.

One author who may have claims to radical humanism is Giddens, who is classified as an interpretivist by Burrell and Morgan (he has written much since then). Giddens attempts to fit a certain degree of individual agency into a fairly rigid structure of social order; whether he is classified as radical or not depends on how effective he is in allowing true agency. Giddens's structuration theory is of particular interest here because it has been widely used in information systems research (Jones and Karsten 2008; Orlikowski 1992), although much of this work uses Giddens in a purely interpretivist fashion. Much of the information systems work that is arguably in the radical humanist paradigm is either populist futurology (Tapscott and Ticoll 2003) or reports on projects by software developers who are actively attempting to change society (Raymond 2001). As we shall see, it makes sense for those believing in this paradigm to act rather than theorise.

Burrell and Morgan make a point of not judging the four paradigms against each other and assume that crossing paradigms is quite difficult. However many information systems researchers, perhaps because of institutional pressures attempt multi-paradigm research. This has been supported by authors such as Hassard (1991), but the paradigm incommensurability view has been supported by Parker and McHugh (1991) and by Jones (1999). Although it might be a sign of a weak philosophical position, it is quite feasible for a researcher to embrace different paradigms in different research projects; it is difficult to understand switching paradigms in mid-project, because it means fundamentally changing our idea of the object of our research.

3. Understanding the radical humanist paradigm

One reason for the scarcity of radical humanist information systems research is that we have been too timid to move into this region. We have been unprepared to engage in truly subjective research, and we have been wary of advocating unpredictable change. We have been frightened from subjectivism by the twin demons of solipsism and relativism. According to the *Oxford Companion to Philosophy* (Honderich 1995) solipsism is the view that only oneself exists, while Burrell and Morgan (p 238) define it as the belief that the world is the creation of one's mind. Relativism is social solipsism - we each create our own world, and we can't judge whose creation is better. Of course this is just a caricature of scepticism - the belief that we can't *know* that anything exists or judge beliefs as *true*. We could also believe that the denigration of scepticism is in the interests of philosophers (and scientists) who want to preserve their position as experts. Well known sceptics include Descartes, who avoided the ultimate conclusion by a subterfuge that led to the mind-body problem and most of European philosophy as we know it, and Berkeley who used scepticism as a proof of the existence of God. (I suspect he was truly a sceptic, but as a clergyman it was probably advisable to fashion a priest hole.) The logic of scepticism is probably unassailable, but most thinkers try desperately to avoid it because of the supposed consequences. Burrell and Morgan (p 238) state that 'notions of regulation and radical change clearly have no significance within a solipsist perspective' and that '... no meaningful discourse is possible'. This may be true emotionally, but logically there is no reason to suppose that I can't create stability and change, success and failure, or meaningful communication in my own mind. We can't judge whether this creation is 'real' without appeal to intuition or to a dimension beyond experience. This point is well made in the conclusion of the film *Brazil* (Gilliam 1985), where the hero escapes from custody and torture into a rural arcadia; we know this is not 'real', but has the hero died or just lost his mind?

Scepticism and relativism have their advantages. According to Marquard (1991 p 100) '... human sciences need ... more courage to be themselves. ... We are told that people who tell stories fall short of the univocity of meaning at which the sciences aim ... [but] ... in the interpretive human sciences ... univocity is not an ideal that is not attained but a danger that has to be escaped. One has to know what it was that the ambiguity or multiple meaning was needed to oppose ... '. Geertz (1983 p 154) calls the fear of particularism, subjectivism, idealism and relativism an 'academic neurosis' and surmises that 'The subjectivism charge ... is that if one interprets ideologies or theories wholly in terms of the conceptual horizons of those who hold them one is left without a means of judging either their cogency or the degree to which one represents an advance over another'. However, 'What it forms a threat to is the prejudice ... that the pristine powers ... that we all have in common are more revelatory of how we think [and of reality] than the various versions and visions ... that, in this time or that place, we socially construct'. When we apply this standard to ourselves rather than to the 'primitive mind' of the anthropologist 'What looked once to be a matter of finding out whether savages could distinguish fact from fancy now looks to be a matter of finding out how others, across the sea or down the corridor, organize their significative world' (Geertz 1983 p 151). This then, the understanding of how meaning is shared in a world full of ambiguity, becomes a project of intergrated research, communication and action.

Making meaning, 'pretending' to understand, is the way Goffman (1975) believes we survive and thrive in society. Together we construct 'frames', which are shared cognitive structures that help us to understand the world and which shape our actions. Merleau-Ponty (1964 p19) sees this frame as a wall, which we share but which also separates us; it is 'a wall between us and others, but it is a wall we build together, each putting his stone in the niche left by the other'. This wall gives us a clue to the nature of the social. The meaning is the reality is the attempted mutual understanding - 'transcendental subjectivity is intersubjectivity' (Merleau-Ponty 1964 p107). The 'real' is a configuration of the individual subjective meanings as they are created in the process of attempting to achieve mutual understanding. Each of us can only see one side of the wall, but it is still one wall. There is no meaning separate from the circumstances in which we try to understand each other. For Foucault the wall is also a mirror, the meaning making folds back and (re)defines our self (Deleuze 1986). This bypasses solipsism (but not scepticism) because the self and the other (both persons and objects) are created simultaneously (Wiley 1994).

In his earlier work Latour (1993) uses (inadvertently) this model of meaning to explain the structure of his 'hybrids' or 'quasi-objects' which are heterogeneous networks of phenomena, connecting the discourses of society and nature. Within these networks actors attempt to 'inscribe' each other with their desires, and to succeed, and hold the network together, these scripts must be translated between one actor and another. But this dichotomy of society and nature is an historical accident, it will pass. Society is, in fact, the hybrid, the network of actors. In later work Latour denies the existence of society, presumably as a field of rules governing the behaviour of these hybrids. 'Problems arise, however, when 'social' begins to mean a type of material, as if the adjective was roughly comparable to other terms like 'wooden', 'steely', 'biological', 'economical', 'mental', 'organizational', or 'linguistic' (Latour 2005). I contend that, with the possible exception of the first two, these terms are exactly comparable. They are networks of meaning shared among workers in particular disciplines; whether we see a particular situation as biological, economical or linguistic depends on who we are and who we are talking to (which might be the same thing). I think Latour's mistake here is in not accepting the reality of systems as holistic entities (Weinberg 1978), talking instead of 'assemblages'. He is right to reject 'fields', which tend to be used to objectify events and relationships (as with the infamous non-existent 'ether' in physics). The actors make up the rules of the network in the process of interacting (Crozier and Friedberg 1980).

How does this help us to be radical humanists? We need to celebrate relativism and, as researchers, we need to accept our position as biased subjects of the systems we are researching. We also need, as Bakhtin (1993) suggests, to appreciate the particular, the moment. We need to recognise that '... man's reality is accidental. ... Accidental reality is - accidentally - often thus and also different; it embraces various things; it is multiform, motley. This very motleyhood is the human opportunity for freedom.' (Marquard 1991 p 123). So we will change, and our 'subjects' will change, and perhaps we will change together. But what about the second issue identified at the beginning of this section, the unpredictability of change in a subjective world. That is unavoidable, we just can't know the future. Deleuze and Guattari (1988) envisage chaotic assemblages, about to shoot off in any direction. There are 'lines of flight', potential trajectories, but how can we identify them. It is interesting that

these assemblages can be compared to Merleau-Ponty's wall, which may also be unstable. Prigogine and Stengers (1985) show how probabilistic systems can exhibit mostly stable behaviour, except at critical "tipping points". Chaos theory shows that even deterministic systems can be unpredictable. Unpredictability is the way of the world.

The only thing is to settle down with our subjects (or clients) and cope together. In information systems design Bo Hedberg suggested a 'maturity model' for systems designers which, it could be argued, takes designers through the four paradigms. As radical structuralists they are 'change agents'; as radical humanists they are 'gone'. Perhaps, like Max Elden (1983), they have taken their sleeping bags and 'gone native' with their subjects, stirring up and riding the waves of change together. The thing they should avoid is objectification, denying the obvious particularity of the situation in the hope of gaining control. They must avoid the fate of Dr Faust:

'I'd sell my soul for total control --- over you' (The Motels 1979)

References

- Argyris, Chris 1978 *Organizational Learning* Addison-Wesley, Reading MA.
- Bakhtin, Mikhail 1993 *Toward a Philosophy of the Act* University of Texas Press.
- Beath, Cynthia and Orlikowski, Wanda 1994 'The Contradictory Structure of Systems Development Methodologies' *Information Systems Research* 5,4 pp350-377.
- Berger, Peter and Luckmann, Thomas 1966 *The Social Construction of Reality: A Treatise in the Sociology of Knowledge* Doubleday
- Burrell, Gibson and Morgan, Gareth 1979 *Sociological Paradigms and Organisational Analysis* Heinemann.
- Byrne, Tatjana and Lee, Soo Hee 2008 'The Role of Information Technology as a Mediator of Power within Health Organisations: Changing Professional Practice in an NHS Hospital' *24th EGOS Colloquium* Amsterdam.
- Campbell, Bruce 2008 *The Intractable Nature of Alignment* 19th Australasian Conference on Information Systems Christchurch 3-5 Dec 2008
- Checkland, Peter 1999 *Soft Systems Methodology in Action* Wiley
- Crotty, Michael 1998 *The Foundations of Social Research; meaning and perspective in the research process* Sage.
- Crozier, Michel and Friedberg, Erhard 1980 *Actors and Systems* University of Chicago Press.
- Deleuze, Gilles 1986 *Foucault* University of Minnesota, Minneapolis.
- Deleuze, Gilles and Guattari, Félix 1988 *A Thousand Plateaus* Athlone, London.
- Elden, Max and Taylor, James 1983 'Participatory Research at Work: An Introduction' *Journal of Occupational Behaviour*, 4, 1 pp 1-8.
- Geertz, Clifford 1983 *Local Knowledge* Fontana, London.
- Gilliam, Terry (dir) 1985 *Brazil* (film)
- Greenbaum, Joan 1979 *In the Name of Efficiency* Temple University, Philadelphia.
- Goffman, Erving 1975 *Frame Analysis* Penguin Harmondsworth.
- Hassard, John 1991 'Multiple Paradigms and Organizational Analysis: A Case Study' *Organization Studies* 12,2 pp 275-299.
- Hedberg, Bo 1978 'Using Computerized Information Systems to design Better Organizations and Jobs' in Niels Bjørn-Andersen (ed) *The Human Side of Information Processing* North-Holland, Amsterdam.
- Hirschheim, Rudy; Klein, Heinz; and Lyytinen, Kalle 1995 *Information Systems Development and Data Modelling: conceptual and philosophical foundations* Cambridge UP.
- Honderich, Ted (ed) 1995 *The Oxford Companion to Philosophy* Oxford UP.
- Jones, Matthew 1999 'Mission Impossible? Pluralism and Multiparadigm IS Research' in Laurence Brooks and Chris Kimble (eds) *Information Systems – the Next Generation: Proceedings of 4th UKAIS Conference* University of York.
- Jones, Matthew and Karsten, Helena 2008 'Giddens's Structuration Theory and Information Systems Research' *MIS Quarterly* 32, 1
- Keen, Peter W.G. 1990 'Relevance and Rigour in Information Systems Research' presented at *IFIP WG 8.2 Working Conference, The Information Systems Research Arena of the 90's* Copenhagen, December 14th-16th.
- Latour, Bruno 1993 *We Have Never Been Modern* Harvester, New York.
- Latour, Bruno 2005 *Reassembling the Social* Oxford UP.
- Laurel, Brenda 1991 *Computers as Theatre* Addison-Wesley Longman, Boston.
- Lévi-Strauss, Claude 1966 *The Savage Mind* Weidenfield and Nicholson, London.
- Marquard, Odo 1991 *In Defense of the Accidental* Oxford UP, New York.
- Merleau-Ponty, Maurice 1964 *Signs* Northwestern University, Evanston, IL.
- Michels, Robert 1911 *Political Parties* published in German; 2001 English edition available at <http://socserv.mcmaster.ca/econ/ugcm/3ll3/michels/>
- Mumford, Enid; Hirschheim, Rudy; Fitzgerald, Guy; and Wood-Harper, Trevor (eds) 1984 *Research Methods in Information Systems* North-Holland, Amsterdam.
- Nardi, Bonnie and O'Day, Vicki 2000 *Information Ecologies: Using Technology with Heart* MIT Press.

Jim Underwood

- Orlikowski, W. 1992 'The Duality of Technology: Rethinking the Concept of Technology in Organizations' *Organization Science* 3(3) pp 398-427.
- 1991; 12; 451
- Parker, Martin and McHugh, Gerard 1991 'Five Texts in Search of an Author: A Response to John Hassard's Multiple Paradigms and Organizational Analysis' *Organization Studies* 12,3 pp 451-457.
- Poster, Mark 1990 *The Mode of Information* Polity Press, Cambridge.
- Prigogine, Ilya and Stengers, Isabelle 1985 *Order out of Chaos* Fontana, London.
- Raymond, Eric 2001 *The Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary* O'Reilly.
- Simon, Herbert 1976 *Administrative Behavior* Free Press.
- Suchman, Lucy A 1988 'Designing with the User' *ACM Transactions on Information Systems* 6 (2) pp. 173-183.
- Tapscott, Don Ticoll, David 2003 *The Naked Corporation: How the Age of Openness Will Revolutionize Business* Simon & Schuster.
- Weinberg, Gerald 1975 *An Introduction to General Systems Thinking* Wiley, New York.
- Wieandt, Michaela 2008 'Power Games in Processes of Organizational Change: Client-Consultant Relationships in IT Projects' *24th EGOS Colloquium* Amsterdam.

8th European Conference on Research Methodology for Business and Management Studies

**University of Malta
Valletta
Malta**

22-23 June 2009

Edited by

Joseph Azzopardi
University of Malta

Copyright The Authors, 2009. All Rights Reserved.

No reproduction, copy or transmission may be made without written permission from the individual authors.

Papers have been double-blind peer reviewed before final submission to the conference. Initially, paper abstracts were read and selected by the conference panel for submission as possible papers for the conference.

Many thanks to the reviewers who helped ensure the quality of the full papers.

Further copies of this book and previous year's proceedings can be purchased from <http://academic-conferences.org/2-proceedings.htm>

ISBN: 978-1-906638-30-6 CD

Published by Academic Publishing Limited
Reading
UK
44-118-972-4148
www.academic-publishing.org